

## FIG. 1A

1 AATTCAACCT TAACCTTTCT TATTCTGTAG TATTCAAAGG GCACAGAGCG  
51 GGGGTTTGAG CCCCTCCTG GGGGAAGAAA GTCATTAATA TTGAATCTCA  
101 TCATGTCCAC CGCCAGGAG GCGGTTCTGA CTGTGGTTCG CTTGACAGTA  
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTTG AAGATGCCAT TTTTCCTTCT  
201 CCAGCGGTAA CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA  
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTCCG GTAACGCCTC  
301 CTTGGATACG TCATATCTGA AAACGAAAGA AGTGGCTGTG AAGTATTACC  
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG  
401 CCGAGCAAGA AGAATGGAAG AAGCGGACCC CAACCCCATTA AAAGGTGGGT  
451 GTTCACTCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGATC  
501 TTCCAATATC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG  
551 GAAGGACGAA CACCTCACCT CCAGGGGTTT GCTAATTTTG TGAAGAAGCA  
601 GACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA  
651 AAGCGAAAGG AACAGATCAG CAGAATAAAG AATACTGCAG TAAAGAAGGC  
701 AACTTACTGA TGGAGTGTGG AGCTCCTAGA TCTCAGGGAC AACGGAGTGA  
751 CCTGTCTACT GCTGTGAGTA CTTGTTGGA GAGCGGGAGT CTGGTGACCG  
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT  
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACTAA  
901 TGTacACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG  
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG  
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTATTG ATGACTTTTA  
1051 TGGCTGGCTG CCCTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT  
1101 TGA CTGTAGTA GACTAAAGGT GGAAGTGTAC CTTTTTTGGC CCGCAGTATT  
1151 CTGATTACCA GCAATCAGAC CCGTTGGAA TGGTACTCCT CAACTGCTGT  
1201 CCCAGCTGTA GAAGCTCTTT ATCGGAGGAT TACTTCCTTG GTATTTTGGG

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*FIG. 1B*

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCCTT  
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TAAGGGTTAA GTGGGGGGTC  
1401 TTTAAGATTA AATTCTCTGA ATTGTACATA CATGGTTACA CGGATATTGT  
1451 ATTCCTGGTC GTATATACTG TTTTCGAACG CAGTGCCGAG GCCTACGTGG  
1501 TCTACATTC CAGCAGTTTG TAGTCTCAGC CACAGCTGGT TTCTTTTGTT  
1551 GTTTGGTTGG AAGTAATCAA TAGTGGAATC TAGGACAGGT TTGGGGGTAA  
1601 AGTAGCGGGA GTGGTAGGAG AAGGGCTGGG TTATGGTATG GCGGGAGGAG  
1651 TAGTTTACAT AGGGGTCATA GGTGAGGGCT GTGGCCTTTG TTACAAAGTT  
1701 ATCATCTAGA ATAACAGCAC TGGAGCCCAC TCCCCTGTCA CCCTGGGTGA  
1751 TCGGGGAGCA GGGCCAG

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FIG.2A

1 AATTCAACCT TAACCTTTCT TATTCTGTAG TATTCAAAGG GCACAGAGCG  
51 GGGGTTTGAG CCCCCTCCTG GGGGAAGAAA GTCATTAAATA TTGAATCTCA  
101 TCATGTCCAC CGCCCAGGAG GCGGTTTTGA CTGTGGTTCG CTTGACAGTA  
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT  
201 CCAGCGGTAA CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA  
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTCCG GTAACGCCTC  
301 CTTGGATACG TCATATCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC  
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG  
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCCCAT AAGGTGGGT  
451 GTTCACTCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGATC  
501 TTCCAATATC CCTATTIGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG  
551 GAAGGACGAA CACCTCACCT CCAGGGGTTC GCTAATTTTG TGAAGAAGCA  
601 GACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCCGCTGC CACATCGAGA  
651 AAGCGAAAGG AACAGATCAG CAGAATAAAG AATACTGCAG TAAAGAAGGC  
701 AACTTACTGA TGGAGTGTGG AGCTCCTAgA TCTCagGGAC AACGGAGTGA  
751 CCTGTCTACT GCTGTGAGTA CCTTGTGGA GAGCGGGAGT CTGGTGACCG  
801 TTGCAGAGCA GCACCTGTGA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT  
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACTAA  
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG  
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG  
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTATTG ATGACTTTTA  
1051 TGGCTGGCTG CCCTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT  
1101 TGACTGTAGA GACTAAAGGT GGAACGTGAC CTTTTTTGGC CCGCAGTATT  
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT  
1201 CCCAGCTGTA GAAGCTCTTT ATCGGAGGAT TACTTCCTTG GTATTTTGA

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*FIG. 2B*

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCCTT  
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TAAGGGTTAA GTGGGGGGTC  
1401 TTTAAGATTA AATTCTCTGA ATTGTACATA CATGGTTACA CGGATATTGT  
1451 ATTCCTGGTC GTATATACTG TTTTCGAACG CAGTGCCGAG GCCTACGTGG  
1501 TCTACATTC CAGTAGTTTG TAGTCTCAGC CACAGCTGAT TTCTTTTGTT  
1551 GTTTGGTTGG AAGTAATCAA TAGTGGAATC TAGGACAGGT TTGGGGGTAA  
1601 AGTAGCGGGA GTGGTAGGAG AAGGGCTGGG TTATGGTATG GCGGGAgGAG  
1651 TAGTTTACAT AGGGGTCATA GGTGAaggCT GTGGCCTTTG TTACAAAGTT  
1701 ATCATCTAGA ATAACAGCAC TGGAGCCCAC TCCCCTGTCA CCCTGGGTGA  
1751 TCGGGGAGCA GGGCCAG

## FIG. 3A

1 AATTCAACCT TAACCTTTTT TATTCTGTAG TATTCAAAGG GTATAGAGAT  
51 TTTGTTGGTC CCCCCTCCCG GGGGAACAAA GTCGTCAATA TTAAATCTCA  
101 TCATGTCCAC CGCCAGGAG GCGTTCTGA CTGTGGTAGC CTTGACAGTA  
151 TATCCGAAGG TCGGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT  
201 CCAACGGTAG CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA  
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTGCG GTAACGCCTC  
301 CTTGGATACG TCATAGCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC  
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG  
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCACATA AAAGGTGGGT  
451 GTTCACGCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGAGC  
501 TCCCAATCTC CCTATTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG  
551 GAAGGACGAA CACCTCACCT CCAGGGGTTC GCTAATTTTG TGAAGAAGCA  
601 AACTTTTAAT AAAGTGAAGT GGTATTGSGG TGCCCGCTGC CACATCGAGA  
651 AAGCCAAAGG AACTGATCAG CAGAATAAAG AATATTGCAG TAAAGAAGGC  
701 AACTTACTTA TTGAATGTGG AGCTCCTCGA TCTCAAGGAC AACGGAGTGA  
751 CCTGTCTACT GCTGTGAGTA CCTGTGTTGA GAGCGGGAGT CTGGTGACCG  
801 TTGCAGAGCA GCACCTGTGA ACGTTGTCA GAAATTTCCG CGGGCTGGCT  
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACCAA  
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG  
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG  
1001 TGGTGGGATG GTTACCATGG TGAAGAAAGTG GTTGTTATTG ATGACTTTTA  
1051 TGGCTGGCTG CCGTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT  
1101 TGA CTGTAGA GACTAAAGGT GGAACGTGAC CTTTTTTGGC CCGCAGTATT  
1151 CTGATTACCA GCAATCAGAC CCEGTTGGAA TGGTACTCCT CAACTGCTGT  
1201 CCCAGCTGTA GAAGCTCTCT ATCGGAGGAT TACTTCCTTG GTATTTTGA

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1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCCT  
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TTAGGGTTTA AGTGGGGGGT  
1401 CTTTAAGATT AAATTCTCTG AATTGTACAT ACATGGTTAC ACGGATATTG  
1451 TAGTCCTGGT CGTATATACT GTTTTCGAAC GCAGTGCCGA GGCCTACGTG  
1501 GTCCACATTT CTAGAGGTTT GTAGCCTCAG CCAAAGCTGA TTCCTTTTGT  
1551 TATTTGGTTG GAAGTAATCA ATAGTGGAGT CAAGAACAGG TTTGGGTGTG  
1601 AAGTAACGGG AGTGGTAGGA GAAGGGTTGG GGGATTGTAT GCGGGGAGGA  
1651 GTAGTTTACA TATGGGTCAT AGGTTAGGGC TGTGGCCTTT GTTACAAAGT  
1701 TATCATCTAG AATAACAGCA GTGGAGCCCA CTCCCCTATC ACCCTGGGTG  
1751 ATGGGGGAGC AGGGCCAG

*FIG. 3B*

## FIG. 4A

1 AATTCAACCT TAACCTTTCT TATTCTGTAG TATTCAAAGG GTATAGAGAT  
51 TTTGTTGGTC CCCCCTCCCG GGGGAACAAA GTCGTCAATT TTAAATCTCA  
101 TCATGTCCAC CGCCCAGGAG GGC GTTGTGA CTGTGGTACG CTTGACAGTA  
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT  
201 CCAACGGTAG CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGSAGGA  
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTGCG GTAACGCCTC  
301 CTTGGATACG TCATAGCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC  
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG  
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCACATA AAAGTGGGT  
451 GTTCACGCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGAGC  
501 TCCCAATCTC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG  
551 GAAGGACGAA CACCTCACCT CCAGGGGTTC GCTAATTTTG TGAAGAAGCA  
601 AACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA  
651 AAGCCAAAGG AACTGATCAG CAGAATAAAG AATATTGCAG TAAAGAAGGC  
701 AACTTACTTA TTGAATGTGG AGCTCCTCGA TCTCAAGGAC AACGGAGTGA  
751 CCTGTCTACT GCTGTGAGTA CCTTGTGGA GAGCGGGAGT CTGGTGACCG  
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT  
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACCAA  
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG  
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG  
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTTATTG ATGACTTTTA  
1051 TGGCTGGCTG CCGTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT  
1101 TGA CTGTAGA GACTAAAGGT GGA ACTGTAC CTTTTTTGGC CCGCAGTATT  
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT  
1201 CCCAGCTGTA GAAGCTCTCT ATCGGAGGAT TACTTCCTTG GTATTTTGA

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1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCCT  
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TTAGGGTTTA AGTGGGGGGT  
1401 CTTTAAGATT AAATTCTCTG AATTGTACAT ACATGGTTAC ACGGATATTG  
1451 TAGTCCTGGT CGTATTTACT GTTTTCGAAC GCAGCGCCGA GGCCTACGTG  
1501 GTCCACATTT CCAGAGGTTT GTAGTCTCAG CCAAAGCTGA TTCCTTTTGT  
1551 TATTGGTTG GAAGTAATCA ATAGTGGAGT CAAGAACAGG TTTGGGTGTG  
1601 AAGTAACGGG AGTGGTAGGA GAAGGGTTGG GGGATTGTAT GGCGGGAGGA  
1651 GTAGTTTACA TATGGGTCAT AGGTTAGGGC TGTGGCCTTT GTTACAAAGT  
1701 TATCATCTAG AATAACAGCA GTGGAGCCCA CTCCCCTATC ACCCTGGGTG  
1751 ATGGGGGAGC AGGGCCAG

*FIG. 4B*



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## FIG. 5A

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

AATTCATATTTAGCCTTTCTAATACGGTAGTATTGGAAAGGTAGGGGTAGGGGGTTGGTG  
AATTCAACCTTAACCTTTTTTATTCTGTAGTATTCAAAGGGTATAGAGATTTTGTGGTC  
AATTCAACCTTAACCTTTCTTATTCTGTAGTATTCAAAGGGTATAGAGATTTTGTGGTC  
AATTCAACCTTAACCTTTCTTATTCTGTAGTATTCAAAGGGCACAGAGCGGGGGTTTGAG  
AATTCAACCTTAACCTTTCTTATTCTGTAGTATTCAAAGGGCACAGAGCGGGGGTTTGAG  
\*\*\*\*\*      \*      \*      \*      \*      \*      \*      \*      \*      \*      \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CCGCTGAGGGGGGAGGAACCTGGCCGATGTTGAATTTGAGGTAGTTAATTTCCAAGAT  
CCCCCTCCCGGGGAACAAAGTCGTCAATATTAAATCTCATCATGTCCACCGCCCAGGAG  
CCCCCTCCCGGGGAACAAAGTCGTCAATTTTAAATCTCATCATGTCCACCGCCCAGGAG  
CCCCCTCCTGGGGGAAGAAAGTCATTAAATATTGAATCTCATCATGTCCACCGCCCAGGAG  
CCCCCTCCTGGGGGAAGAAAGTCATTAAATATTGAATCTCATCATGTCCACCGCCCAGGAG  
\*\*      \*      \*      \*      \*      \*      \*      \*      \*      \*      \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GGC--TGCGAGTATCCTCCTTTT-ATGGTGAGTACAAATTCTGTAGAAAGGCGGGGAATTG  
GGCGTTCTGACTGTGGTAGCCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG  
GGCGTTGTGACTGTGGTAGCCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG  
GGCGTTCTGACTGTGGTTTCGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG  
GGCGTTTGTGACTGTGGTTTCGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG  
\*\*\*      \*      \*      \*      \*      \*      \*      \*      \*      \*      \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

AAGATACCCGTCTTTTCGGCGCCATCTGTAAACGGTTTCTGAAGGCGGGGTGTGCCAAATAT  
AAGATGCCATTTTTCCTTCTCCAACGGTAGCGGTGGC-GGGGGTGA-CGAGCCAGGGGC  
AAGATGCCATTTTTCCTTCTCCAACGGTAGCGGTGGC-GGGGGTGA-CGAGCCAGGGGC  
AAGATGCCATTTTTCCTTCTCCAGCGGTAACGGTGGC-GGGGGTGA-CGAGCCAGGGGC  
AAGATGCCATTTTTCCTTCTCCAGCGGTAACGGTGGC-GGGGGTGA-CGAGCCAGGGGC  
\*\*\*\*\*      \*      \*      \*      \*      \*      \*      \*      \*      \*      \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GGTCTTCTCCGAGGATGTTTCCAAGATGGCTGCGGGGGCGGGTCTTCTTCTGCGGTAA  
GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA  
GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA  
GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA  
GG----CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA  
\*\*      \*      \*      \*      \*      \*      \*      \*      \*      \*      \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CGCCTCCTTGGCCACGTCATCCTATAAAAGTGAAGAAGTGCGCTGCTGTAGTATTACCA  
CGCCTCCTTGGGATACGTCATAGC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA  
CGCCTCCTTGGGATACGTCATAGC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA  
CGCCTCCTTGGGATACGTCATATC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA  
CGCCTCCTTGGGATACGTCATATC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA  
\*\*\*\*\*      \*      \*      \*      \*      \*      \*      \*      \*      \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCG--TCAGTG--AAAATGCCAAGCAAGAA  
GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCAGCAAGAA  
GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCAGCAAGAA  
GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCAGCAAGAA  
GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCAGCAAGAA  
\*\*\*\*\*      \*      \*      \*      \*      \*      \*      \*      \*      \*

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FIG.5B

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

-----AAGCGGCCCGCAACCCCATAGAGGTGGGTGTTACCCCTTAATAATCCTTC  
GAATGGAAGAAGCGGACCCCAACCACATAAAAGGTGGGTGTTACGCTGAATAATCCTTC  
GAATGGAAGAAGCGGACCCCAACCACATAAAAGGTGGGTGTTACGCTGAATAATCCTTC  
GAATGGAAGAAGCGGACCCCAACCACATAAAAGGTGGGTGTTACTCTGAATAATCCTTC  
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PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CGAGGAGGAGAAAAACAAAATACGGGAGCTTCCAATCTCCCTTTTGATTATTTTGTGTTG  
CGAAGACGAGCGCAAGAAAAATACGGGAGCTCCCAATCTCCCTATTTGATTATTTTATTGT  
CGAAGACGAGCGCAAGAAAAATACGGGAGCTCCCAATCTCCCTATTTGATTATTTTATTGT  
CGAAGACGAGCGCAAGAAAAATACGGGATCTTCCAATATCCCTATTTGATTATTTTATTGT  
CGAAGACGAGCGCAAGAAAAATACGGGATCTTCCAATATCCCTATTTGATTATTTTATTGT  
\*\*\* \*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CGGAGAGGAAGGTTTGGAAAGAGGGTAGAACTCCTCACCTCCAGGGGTTTGCGAATTTTGC  
TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT  
TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT  
TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT  
TGGCGAGGAGGGTAATGAGGAAGGACGAACACCTCACCTCCAGGGGTTTCGCTAATTTTGT  
\*\* \*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TAAGAAGCAGACTTTTAAACAAGGTGAAGTGGTATTTTGGTGCCCGCTGCCACATCGAGAA  
GAAGAAGCAAACTTTAAATAAAGTGAAGTGGTATTTGGTGCCCGCTGCCACATCGAGAA  
GAAGAAGCAAACTTTAAATAAAGTGAAGTGGTATTTGGTGCCCGCTGCCACATCGAGAA  
GAAGAAGCAGACTTTTAAATAAAGTGAAGTGGTATTTGGTGCCCGCTGCCACATCGAGAA  
GAAGAAGCAGACTTTTAAATAAAGTGAAGTGGTATTTGGTGCCCGCTGCCACATCGAGAA  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

AGCGAAAGGAACCGACCAGCAGAATAAAGAATACTGCAGTAAAGAAGGCCACATACTTAT  
AGCCAAAGGAACGTATCAGCAGAATAAAGAATATTGCAGTAAAGAAGGCCAAGCTTACTTAT  
AGCCAAAGGAACGTATCAGCAGAATAAAGAATATTGCAGTAAAGAAGGCCAAGCTTACTTAT  
AGCGAAAGGAACAGATCAGCAGAATAAAGAATACTGCAGTAAAGAAGGCCAAGCTTACTGAT  
AGCGAAAGGAACAGATCAGCAGAATAAAGAATACTGCAGTAAAGAAGGCCAAGCTTACTGAT  
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PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CGAGTGTGGAGCTCCGCGGAACCGGGGAAGCGCAGCGACCTGTCTACTGCTGTGAGTAC  
TGAATGTGGAGCTCCTCGATCTCAAGGACAACCGAGTGACCTGTCTACTGCTGTGAGTAC  
TGAATGTGGAGCTCCTCGATCTCAAGGACAACCGAGTGACCTGTCTACTGCTGTGAGTAC  
GGAGTGTGGAGCTCCTAGATCTCAGGGACAACCGAGTGACCTGTCTACTGCTGTGAGTAC  
GGAGTGTGGAGCTCCTAGATCTCAGGGACAACCGAGTGACCTGTCTACTGCTGTGAGTAC  
\*\* \*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CCTTTTGGAGACGGGGTCTTTGGTGAAGTGTAGCCGAGCAGTTCCCTGTAACGTATGTGAG  
CTTGTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCTGTAACGTTTGTGAG  
CTTGTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCTGTAACGTTTGTGAG  
CTTGTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCTGTAACGTTTGTGAG  
CTTGTGGAGAGCGGGAGTCTGGTGACCGTTGCAGAGCAGCACCTGTAACGTTTGTGAG  
\* \* \*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

AAATTTCCGCGGGCTGGCTGAAGTTTGAAGTGAGCGGGAAAGTGCAGCAGCGTGATTG  
AAATTTCCGCGGGCTGGCTGAAGTTTGAAGTGAGCGGGAAAGTGCAGCAGCGTGATTG  
AAATTTCCGCGGGCTGGCTGAAGTTTGAAGTGAGCGGGAAAGTGCAGCAGCGTGATTG  
AAATTTCCGCGGGCTGGCTGAAGTTTGAAGTGAGCGGGAAAGTGCAGCAGCGTGATTG  
AAATTTCCGCGGGCTGGCTGAAGTTTGAAGTGAGCGGGAAAGTGCAGCAGCGTGATTG  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GAAGACAGCTGTACACGTCATAGTGGGCCCGCCCGGTTGTGGGAAGAGCCAGTGGGCCCG  
GAAGACCAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
GAAGACCAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
GAAGACTAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
GAAGACTAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TAATTTTGCTGAGCCTAGGGACACCTACTGGAAGCCTAGTAGAAATAAGTGGTGGGATGG  
TAATTTTGAGACCCCGAAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG  
TAATTTTGAGACCCCGAAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG  
TAATTTTGAGACCCCGAAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG  
TAATTTTGAGACCCCGAAACCACATACTGGAAACCACCTAGAAACAAGTGGTGGGATGG  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

ATATCATGGAGAAGAAGTTGTTGTTTTGGATGATTTTTATGGCTGGTTACCTTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
\*\* \*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TCTACTGAGACTGTGTGACCGGTATCCATTGACTGTAGAGACTAAAGGGGTACTGTTCC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTGATCC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTGATCC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTGATCC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAACGTGATCC  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TTTTTTGGCCCGCAGTATTTTGATTACCAGCAATCAGGCCCGCCAGGAATGGTACTCCTC  
TTTTTTGGCCCGCAGTATTTTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
TTTTTTGGCCCGCAGTATTTTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
TTTTTTGGCCCGCAGTATTTTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
TTTTTTGGCCCGCAGTATTTTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTTTCCTTGGTATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTTTCCTTGGTATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTTTCCTTGGTATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTTTATCGGAGGATTACTTTCCTTGGTATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTTTATCGGAGGATTACTTTCCTTGGTATTTTGGAA  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GACTGCTGGAGAACAATCCACGGAGGTACCCGAAGGCCGATTGGAAGCAGTGGACCCACC  
GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCCTTTCCCCCCC  
GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCCTTTCCCCCCC  
GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCCTTTCCCCCCC  
GAATGCTACAGAACAATCCACGGAGGAA--GGGGGCCAGTTCGTCACCCCTTTCCCCCCC  
\*\* \*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CTGTGCCCTTTTCCCATATAAAATAAATTACTGAGTCTTTTTTGTATCACATCGTAATG  
ATGCCCTGAATTTCCCATATGAAATAAATTACTGAGTCTTTTT--TATCACTTCGTAATG  
ATGCCCTGAATTTCCCATATGAAATAAATTACTGAGTCTTTTT--TATCACTTCGTAATG  
ATGCCCTGAATTTCCCATATGAAATAAATTACTGAGTCTTTTT--TATCACTTCGTAATG  
ATGCCCTGAATTTCCCATATGAAATAAATTACTGAGTCTTTTT--TATCACTTCGTAATG  
\*\* \* \*\*\*\*\*

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FIG. 5D

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GTTTTTATT-TTTATTTA---TTTA---GAGGGTCTTTTAGGATAAATTCTCTGAATTG  
GTTTTTATTATTTCATTTAGGGTTTAAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG  
GTTTTTATTATTTCATTTAGGGTTTAAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG  
GTTTTTATTATTTCATTAAGGGTT-AAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG  
GTTTTTATTATTTCATTAAGGGTT-AAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG  
\*\*\*\*\* \*\* \* \* \* \* \* \* \* \* \* \* \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TACATAAATAGTCAGCCTTACCACATAATTTTGGGCTGTGGCTGC-ATTTTGAGAGCGCAT  
TACATACATGGTTACACGGATATTGTAGTCCTGG-TCGTATATACTGTTTTCGAACGCAG  
TACATACATGGTTACACGGATATTGTAGTCCTGG-TCGTATTTACTGTTTTCGAACGCAG  
TACATACATGGTTACACGGATATTGTATTCCTGG-TCGTATATACTGTTTTCGAACGCAG  
TACATACATGGTTACACGGATATTGTATTCCTGG-TCGTATATACTGTTTTCGAACGCAG  
\*\*\*\*\* \*\* \* \* \* \* \* \* \* \* \* \* \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

AGCCGAGGCCTGTGTGCTCGACATTGGTGTGGGTATTTAAATGGAGCCACAGCTGGTTTC  
TGCCGAGGCCTACGTGGTCCACATTTCTAGAGGTTTGTAGCCTCAGCCAAAGCTGATTCC  
CGCCGAGGCCTACGTGGTCCACATTTCCAGAGGTTTGTAGTCTCAGCCAAAGCTGATTCC  
TGCCGAGGCCTACGTGGTCTACATTTCCAGCAGTTTGTAGTCTCAGCCACAGCTGGTTTC  
TGCCGAGGCCTACGTGGTCTACATTTCCAGTAGTTTGTAGTCTCAGCCACAGCTGATTTC  
\*\*\*\*\* \*\* \* \* \* \* \* \* \* \* \* \* \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TTTTATTATTTGGGTGGAACCAATCAATTGTTTGGTCCAGCTCAGGTTTGGGGTGAAGT  
TTTTGTTATTTGGTTGGAAGTAATCAATAGTGGAGTCAAGAACAGGTTTGGGTGGAAGT  
TTTTGTTATTTGGTTGGAAGTAATCAATAGTGGAGTCAAGAACAGGTTTGGGTGGAAGT  
TTTTGTTGTTTGGTTGGAAGTAATCAATAGTGGAACTTAGGACAGGTTTGGGGGTAAAGT  
TTTTGTTGTTTGGTTGGAAGTAATCAATAGTGGAACTTAGGACAGGTTTGGGGGTAAAGT  
\*\*\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

ACCTGGAGTGGTAGGTAAAGGGCTGCCTTATGGTGTGGCGGGAGGAGTAGTTAATATAGG  
AACGGGAGTGGTAGGAGAAGGGTTGGGGGATTGTATGGCGGGAGGAGTAGTTTACATATG  
AACGGGAGTGGTAGGAGAAGGGTTGGGGGATTGTATGGCGGGAGGAGTAGTTTACATATG  
AGCGGGAGTGGTAGGAGAAGGGCTGGGTTATGGTATGGCGGGAGGAGTAGTTTACATAGG  
AGCGGGAGTGGTAGGAGAAGGGCTGGGTTATGGTATGGCGGGAGGAGTAGTTTACATAGG  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GGTCATAGGCCAAGTTGGTGGAGGGGGTTACAAAGTTGGCATCCAAGATAACAACAGTGG  
GGTCATAGGTTAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCAGTGG  
GGTCATAGGTTAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCAGTGG  
GGTCATAGGTGAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCACTGG  
GGTCATAGGTGAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCACTGG  
\*\*\*\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

ACCCAACACCTCTTTGATTAGAGGTGATGGGGTCTCTGGGGTAA  
AGCCCACTCCCCTATCACCCTGGGTGATGGGGGAGCAGGGCCAG  
AGCCCACTCCCCTATCACCCTGGGTGATGGGGGAGCAGGGCCAG  
AGCCCACTCCCCTGTCAACCCTGGGTGATCGGGGAGCAGGGCCAG  
AGCCCACTCCCCTGTCAACCCTGGGTGATCGGGGAGCAGGGCCAG  
\* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

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FIG.6A

1 GAATTCAACC TTAACCTTTT TTATTCTGTA gTATTCAAAG GGTATAaAgA  
51 TTTTGTtGGT CCCCCCTCCC GGGGGAACAA AGTCgTCAAT ATTAAATCTC  
101 ATCATGTCCA CCGCCCAGGA GGGCGTTCTG ACTGTGGTA g CCTTGACAgT  
151 ATATCCGAAG GTGCGGGAGA rGCGGGTGTT GAAAATGCCA TTTTTCCTTC  
201 TCCAACGGTA GCGGTGGCGG GGGTGGACma nCCAcgGGCG GCGGCGGAWg  
251 ATCTGGCCAA GATGGCTGCG GGGGCGGTGT CTTCTTCTGC GGTAACGCCT  
301 CCTTGGATAC GTCATAgCTG AAAACGAAAG AAGTGCCTG TAaGTATTAC  
351 CAGCGCACTT CGGCAGCGGC AGCACCTCGG CAGCaCCTCA GCAGCAACAT  
401 GCCCAGCAAG AAGAATGGAA GAAGCGGACC CCAACCACAT AAAAGGTGGG  
451 TGTTcACGCT GAATAATCCT TCCGAAGACG AGCGCAAGAA AATACGGGAG  
501 CTCCCaATCT CCCTATTTGA TTATTTTATT GTTGGCGAGG AGGGTwwTGA  
551 gGAAnGACgA ACACCTCACC TCCAGGGGT CGCtAATTTT GTGAAGAAGc  
601 aaACTTtTAA TAAAGTGAAG TGGTATTTGG GTGCCCCGCTG CCACATCGAG  
651 AAAGCCaAG GAAGTATCA GCAGAATAAA GAATATtGCA GTAAAgAAGG  
701 CAACTTACTT ATTGAATGTG GAGCTCCTCG ATCTCAAGGA CAACGGAGTG  
751 ACCTGTCTAC TGCTGTGAGT ACCTTGTtGG AGAGCGGGAG TCTGGTGACC  
801 GTTGCAGAGC AGCACCTGT AACGTTTGTC AGAAATTTCC GCGGGCTGGC  
851 TGAACTTTTG AAAGTGAGCG GGAAAATGCA GAAGCGTGAT TGGAAGACCA  
901 ATGTACACGT CATTGTGGGG CCACCTGGGT GTGGTAAAAG CAAATGGGCT  
951 GCTAATTTTG CAGACCCGGA AACCACATAC TGGAaACCAC CTAGAAACAA  
1001 GTGGTGGGAT GGTTACCATG GTGAAGAAGT GGTtGTTATT GATGACTTTT  
1051 ATGGCTGGCT GCCGTGGGAT GATCTACTGA GACTGTGTGA TCGATATCCA  
1101 TTGACTGTAG AGACTAAAGG TGGAAGTGTa CNNNNNNNGG CCCGCAGTAT  
1151 TCTGATTACC AGCAATCAGA CCCCgTtGGA ATGGTACTCC TCAACTGCTG  
1201 TCCCAGctGT AGAAGCTCTC TATCGGAGGA ttACTTcCTT GGTATTTtGG  
1251 AaGAATGCTA CAGAACAATC CACGGAGGAA GGGGGCCAGT TnGTCACCCT

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1301 TTCCCCCCCCA TGCCcTGAAT TTCCATaTGA AATAAAATTAC TGAGTCTTTT  
1351 TTATCACTTC GTAATGGTTT TTATTATTCA TTAGGGTTT AAGTGGGGGG  
1401 TCTTTAAGAT TAAATTCTCT GAATTGTACA TACATGGTTA CACGGATATT  
1451 GTAGTCCTGG TCGTATATAC TGTTTTCGAA CGCAGTGCCG AGGCCTACGT  
1501 GGTCCACATT TCTAGAGGTT TGTAGCCTCA GCCAAAGCTG ATTCCTTTTG  
1551 TTATTTGGTT GGAAGTAATC AATAGTGGAG TCAAGAACAG GTTTGGGTGT  
1601 GAAGTAACGG GAGTGGTAGG AGAAGGGTIG GGGGATTGTA TGGCGGGAGG  
1651 AGTAGTTTAC ATATGGGTCA TAGGTTAGGG CTGTGGCCTT TGTACAAAG  
1701 TTATCATCTA GAATACAGC AGTGGAGCCC ACTCCCCCTAT CACCCTGGGT  
1751 GATGGGGGAG CAGGGCCA

FIG. 6B

1289 1279 1269 1259 1249

8con.s GGTGACNAACTGGCCCCC---TTCCTCCGTGGATTGTTCTGTAGCATTCTTCCAAAATAC  
| | :|| |||| | | |||||||||||||||| |||| |||||||||  
pcveco TGCTTCAAATCGGCCTTCGGGTACCTCCGTGGATTGTTCTCCAGCAGTCTTCCAAAATTG  
480 490 500 510 520 530

1239 1229 1219 1209 1199 1189

8con.s CAAGGAAGTAATCCTCCGATAGAGAGCTTCTACAGCTGGGACAGCAGTTGAGGAGTACCA  
||| | |||||||||||||||||||||||||||||||||||||||||  
pcveco CAAAGTAGTAATCCTCCGATAGAGAGCTTCTACAGCTGGGACAGCAGTTGAGGAGTACCA  
540 550 560 570 580 590

1179 1169 1159 1149 1139 1129

8con.s TTCCAACGGGGTCTGATTGCTGGTAATCAGAATACTGCGGGCCNNNNNNNGTACAGTTCC  
|||| | |||| |||||||||||||||||| |||||||||||||:::| |||| |  
pcveco TTCCTGGGGGGCCTGATTGCTGGTAATCAAATACTGCGGGCCAAAAAAGGAACAGTACC  
600 610 620 630 640 650

1119 1109 1099 1089 1079 1069

8con.s ACCTTTAGTCTCTACAGTCAATGGATATCGATCACACAGTCTCAGTAGATCATCCCACGG  
|||| | |||||||||||||||||| || |||||||||||||||||  
pcveco CCCTTTAGTCTCTACAGTCAATGGATACCGGTACACACAGTCTCAGTAGATCATCCCAAG  
660 670 680 690 700 710

1059 1049 1039 1029 1019 1009

8con.s CAGCCAGCCATAAAAGTCATCAATAACAACCACTTCTTCAACCATGGTAACCATCCCACCA  
| |||||||||||| |||| | |||| | |||| | |||| | |||| |  
pcveco TAACCAGCCATAAAAATCATCCAAAACAACAACCTTCTTCTCCATGATATCCATCCCACCA  
720 730 740 750 760 770

999 989 979 969 959 949

8con.s CTTGTTTCTAGGTGGTTTCCAGTATGTGGTTTCCGGGTCTGCAAAATTAGCAGCCCATT  
||| ||||| || ||||||| || | || ||||| |||||  
pcveco CTTATTTCTACTAGGCTTCCAGTAGGTGTCCCTAGGCTCAGCAAAATTACGGGCCCCACTG  
780 790 800 810 820 830

939 929 919 909 899 889

8con.s GCTTTTACCACACCCAGGTGGCCCCACAATGACGTGTACATTGGTCTTCCAATCACGCTT  
||| || ||||| || || || ||||| ||||||||||||| |||||||||  
pcveco GCTCTTCCACAAACCGGGCGGGCCCACTATGACGTGTACAGTGTCTTCCAATCACGCTG  
840 850 860 870 880 890

879 869 859 849 839 829

8con.s CTGCATTTTCCCGCTCACTTTCAAAGTTTCAGCCAGCCCGCGGAAATTTCTGACAAACGT  
||||| ||||||||||||||||||||||||||||||||||||| ||| |||||  
pcveco CTGCATCTTCCCGCTCACTTTCAAAGTTTCAGCCAGCCCGCGGAAATTTCTCACATACGT  
900 910 920 930 940 950

819 809 799 789 779 769

8con.s TACAGGGTGCTGCTCTGCAACGGTCACCAGACTCCCGCTCTCCAACAAGGTACTCACAGC  
||||| ||||| ||||| || ||||| || || ||||| |||||  
pcveco TACAGGGAACCTGCTCGGCTACAGTCACCAAGACCCCGTCTCCAAAAGGGTACTCACAGC  
960 970 980 990 1000 1010

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FIG. 7C

759 749 739 729 719 709  
8con.s AGTAGACAGGTCACCTCCGTTGTCTTGAGATCGAGGAGCTCCACATTCAATAAGTAAGTT  
|||||  
pcveco AGTAGACAGGTCGCTGCGCTTCCCTGGTTCCGCGGAGCTCCACACTCGATAAGTATGTG  
1020 1030 1040 1050 1060 1070

699 689 679 669 659 649  
8con.s GCCTTCTTTACTGCAATATTCTTTATTCTGCTGATCAGTTCCCTTTGGCTTTCTCGATGTG  
|||||  
pcveco GCCTTCTTTACTGCAATATTCTTTATTCTGCTGATCAGTTCCCTTTGGCTTTCTCGATGTG  
1080 1090 1100 1110 1120 1130

639 629 619 609 599 589  
8con.s GCAGCGGGCACCACAAATACCACTTCACCTTTATTAAAAAGTTTGCTTCTTCAAAAATTAGC  
|||||  
pcveco GCAGCGGGCACCACAAATACCACTTCACCTTTGTTAAAAAGTCTGCTTCTTAGCAAAAATTGCG  
1140 1150 1160 1170 1180 1190

579 569 559 549 539 529  
8con.s GAACCCCTGGAGGTGAGGTGTTTCGTCNTTCTCAWWACCCCTCCTCGCCAACAATAAAAATA  
|||||  
pcveco AAACCCCTGGAGGTGAGGTGTTTACCTCTTCCAAACCTTCTCTCCGCAACAAAATA  
1200 1210 1220 1230 1240 1250

519 509 499 489 479 469  
8con.s ATCAAAATAGGGAGATTGGGAGCTCCCGTATTTTCTTGCGCTCGTCTTCGGAAGGATTATT  
|||||  
pcveco ATCAAAAAGGGAGATTGGAAGCTCCCGTATTTTGTCTTCTCTCCTCGGAAGGATTATT  
1260 1270 1280 1290 1300 1310

459 449 439 429 419 409  
8con.s CAGCGTGAACACCCACCTTTTATGTGGTTGGGGTCCGCTTCTTCCATTCTTCTTGCTGGG  
|||||  
pcveco AAGGGTGAACACCCACCTCTTATGGGGTTGCGGGCCGCTT-----TTCTTGCTTGG  
1320 1330 1340 1350 1360

399 389 379 369 359 349  
8con.s CATGTTGCTGCTGAGGTGCTGCCGAGGTGCTGCCGCTGCCGAAGTGCGCTGGTAATACT-  
|||||  
pcveco CATTTT--CACTGA--CGCTGCCGAGGTGCTGCCGCTGCCGAAGTGCGCTGGTAATACTA  
1370 1380 1390 1400 1410

339 329 319 309 299 289  
8con.s -TACAGCGCACTTCTTTTC-GTTTTACGCTATGACGTATCCAAGGAGGCGTTACCGCAGAA  
|||||  
pcveco CAGCAGCGCACTTCTTTTCACTTTTATAGGATGACGTGGCCAAGGAGGCGTTACCGCAGAA  
1420 1430 1440 1450 1460 1470

279 269 259 249 239 229  
8con.s GAAGACACCGCCCCCGCAGCCATCTTGGCCAGATCWTCCGCCCGCCCGCTGGNTKGTCC  
|||||  
pcveco GAAGGACCCGCCCCCGCAGCCATCTTGGAAACATCCTCCGGAGAAGACCATATTTGGCAC  
1480 1490 1500 1510 1520 1530



FIG. 7D

```

      219          209          199          189          179
8con.s  ACCCCCGCC-----ACCGCTACCGTTGGAGAAGGAAAAATGGCATTTC AACACCCGC
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
pcveco  A-CCCCGCCTTCAGAAACCGTTACAGATGGCGCCGAAAGACGGGTATCTTCAATTCCCGC
      1540          1550          1560          1570          1580          1590

      169          159          149          139          129          119
8con.s  YTCTCCCGCACCTTCGGATATACTGTCAAGGCTACCACAGTCAGAACGCCCTCCTGGGCG
      : | | | | | | | | | | | | | | | | | | | | | | | | | | | |
pcveco  CTTTCTACAGAATTTGTACTCACCATAAAAG-GAGGATACTCGCA--GCCATCTTGGGAAT
      1600          1610          1620          1630          1640          1650

      109          99          89          79          69          59
8con.s  GTGGACATGATGAGATTTAATATTGACGACTTTGTTCCCCCGGGAGGGGGGACCAACAAA
      || || | | | | | | | | | | | | | | | | | | | | | | | | | |
pcveco  GTTAACTACCTCAAATTCACATCGGCCAGTTCCTCCCCCCTCAGGCGGCACCAACCCC
      1660          1670          1680          1690          1700          1710

      49          39          29          19          9
8con.s  ATCTTTATACCCTTTGAATACTACAGAATAAAAAAGGTTAAGGTT
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |
pcveco  CTACCCCTACCTTTCCAATACTACCGTATTAGAAAGGCTAAATAT
      1720          1730          1740          1750

```